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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/761,474	01/21/2004	Stefan A. Ionescu	STL11579	2916

7590 09/06/2006  
Seagate Technology LLC  
1280 Disc Drive  
Shakopee, MN 55379

EXAMINER

KAYRISH, MATTHEW

ART UNIT	PAPER NUMBER
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2627

DATE MAILED: 09/06/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/761,474	<b>Applicant(s)</b> IONESCU ET AL.	
	<b>Examiner</b> Matthew G. Kayrish	<b>Art Unit</b> 2627	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 21 January 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-26 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-26 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 January 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Granstrom et al (US Patent Number 6667860).

Regarding claims 1 and 14, Granstrom et al disclose:

A circuit, comprising:

An element (figure 1a, item 101) having a susceptibility to damage from a potential (column 1, lines 35-41) over 400 millivolts and conducting with an element conductance over an element operating voltage range (column 6, lines 45-55) under 400 millivolts (column 2, lines 30-35, operating range from 100-300 millivolts), at element leads (column 2, lines 30-35); and

A shunt protective device (figure 1a, item 102) connected to at least one element lead (figure 1a, item 102 connected to both leads of item 101), the shunt protective device conducting with a shunt conductance that is greater than the element conductance (figure 4, item 406 designates the critical point at which item 102 will conduct more than item 101, above which is range 404), and conducting with a shunt conductance over the element operating voltage range that is less than the element conductance (figure 4, range of item 403, column 6, lines 45-55).

Granstrom et al fail to specifically disclose:

The shunt protective device conducting with a shunt conductance above 400 millivolts.

However, in the course of routine engineering optimization/experimentation it would have been obvious to one of ordinary skill in the art at the time the invention was made to create this device to begin conducting at 400 millivolts, because it is over the range of operation of 100-300 millivolts. By having the shunt protective device conduct at 400 millivolts, the MR sensor will be protected at voltages higher than its range of operation.

Moreover, absent a showing of criticality, i.e., unobvious or unexpected results, the relationships set forth in claims 1 and 14 are considered to be within the level of ordinary skill in the art.

Additionally, the law is replete with cases in which the mere difference between the claimed invention and the prior art is some range, variable or other dimensional limitation within the claims, patentability cannot be found.

It furthermore has been held in such a situation, the applicant must show that the particular range is critical, generally by showing that the claimed range achieves unexpected results relative to the prior art range(s); see *In re Woodruff*, 919 F.2d 1575, 1578, 16 USPQ2d 1934, 1936 (Fed. Cir. 1990).

Moreover, the instant disclosure does not set forth evidence ascribing unexpected results due to the claimed dimensions; see *Gardner v. TEC Systems, Inc.*, 725 F.2d 1338 (Fed. Cir. 1984), which held that the dimensional limitations failed to point out a feature which performed and operated any differently from the prior art.

Regarding claim 2, Granstrom et al disclose:

The circuit of claim 1, further comprising: an electronic circuit coupled to the element leads (figure 2, item 100 designates a circuit), the electronic circuit communicating a signal potential in the element operating voltage range (column 3, lines 47-56).

Regarding claim 3, Granstrom et al disclose:

The circuit of claim 1 wherein the shunt protective device comprises a passive electrical device (figure 1, item 102).

Regarding claims 4-7 and 15-18, Granstrom et al disclose:

The circuit of claim 3 wherein the shunt protective device comprises a static induction device/Schottky diode/Junction Schottky Barrier diode/Trench MOS Schottky Barrier diode (figure 1, item 102).

Regarding claims 8-10 and 19, Granstrom et al disclose:

The circuit of claim 1 wherein the element comprises a magnetoresistive transducer (figure 1, item 101, MR sensors have preamplifiers to drive them).

Regarding claim 11 and 12, Granstrom et al disclose:

The circuit of claim 1 wherein the element and shunt protective device are located on a substrate (figure 1a, item 100 holds both items 101 and 102).

Regarding claim 13, Granstrom et al disclose:

The transducer of claim 11 wherein the shunt protective device is located on the flexible circuit (figure 1a, item 100 is a substrate (column 4, lines 2 and 3) and a circuit (column 3, lines 49 and 50)).

3. Claims 20-26 contain method claims similar to, or inherent from those of claims 1-13, therefore are rejected on the same basis.

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Matthew G. Kayrish whose telephone number is 571-272-4220. The examiner can normally be reached on 8am - 5pm M-F.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, William Korzuch can be reached on 571-272-7589. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Matthew G. Kayrish

8/10/2006

MK



8/10/06